Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL560 Gen10  
(3.00 GHz, Intel Xeon Gold 6154)  

<table>
<thead>
<tr>
<th>SPECint®2006</th>
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<tr>
<td>SPECint_base2006</td>
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</table>

CPU2006 license: 3  
Test sponsor: HPE  
Tested by: HPE  

| SPECint_base2006 | = | 76.3 |

CPU Name: Intel Xeon Gold 6154  
CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
CPU MHz: 2000  
FPU: Integrated  
CPU(s) enabled: 72 cores, 4 chips, 18 cores/chip  
CPU(s) orderable: 1, 2, 4 chip(s)  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 1 MB I+D on chip per core  
L3 Cache: 24.75 MB I+D on chip per core  
Other Cache: None  
Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V-R)  
Disk Subsystem: 1 x 480 GB SATA SSD, RAID 0  
Other Hardware: None  

Operating System: Red Hat Enterprise Linux Server release 7.3  
Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux  
Auto Parallel: Yes  
File System: xfs  
Base Pointers: 32/64-bit  
Peak Pointers: Not Applicable  
Other Software: Microquill SmartHeap V10.2  
Hardware  
Software
SPEC CINT2006 Result

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Results Table

<table>
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<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>209</td>
<td>46.8</td>
<td>209</td>
<td>46.6</td>
<td>208</td>
<td>46.9</td>
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<tr>
<td>401.bzip2</td>
<td>341</td>
<td>28.3</td>
<td>341</td>
<td>28.3</td>
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<td>28.3</td>
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<tr>
<td>403.gcc</td>
<td>187</td>
<td>43.1</td>
<td>187</td>
<td>43.1</td>
<td>187</td>
<td>43.0</td>
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<td>429.mcf</td>
<td>119</td>
<td>76.6</td>
<td>118</td>
<td>77.0</td>
<td>119</td>
<td>76.8</td>
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<tr>
<td>445.gobmk</td>
<td>313</td>
<td>33.6</td>
<td>312</td>
<td>33.6</td>
<td>312</td>
<td>33.6</td>
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<tr>
<td>456.hmmer</td>
<td>96.4</td>
<td>96.8</td>
<td>97.0</td>
<td>96.2</td>
<td>96.6</td>
<td>96.6</td>
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<tr>
<td>458.sjeng</td>
<td>328</td>
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<td>328</td>
<td>36.9</td>
<td>327</td>
<td>37.0</td>
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<td>462.libquantum</td>
<td>2.56</td>
<td>8100</td>
<td>2.36</td>
<td>8790</td>
<td>2.41</td>
<td>8610</td>
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<td>464.h264ref</td>
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<td>308</td>
<td>71.8</td>
<td>307</td>
<td>72.0</td>
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<tr>
<td>471.omnetpp</td>
<td>168</td>
<td>37.3</td>
<td>165</td>
<td>37.8</td>
<td>171</td>
<td>36.5</td>
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<tr>
<td>473.astar</td>
<td>179</td>
<td>39.3</td>
<td>179</td>
<td>39.2</td>
<td>179</td>
<td>39.1</td>
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<tr>
<td>483.xalancbmk</td>
<td>84.8</td>
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<td>84.9</td>
<td>81.3</td>
<td>85.0</td>
<td>81.2</td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled by default
Filesystem page cache cleared with:
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
IRQ balance service was stop using "service irqbalance stop"
Tuned-adm profile was set to Throughput-Performance

Platform Notes

BIOS Configuration:
Intel Hyperthreading set to Disabled
Thermal Configuration set to Maximum Cooling
LLC Prefetch set to Enabled
LLC Dead Line Allocation set to Disabled
Memory Patrol Scrubbing set to Disabled
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
Workload Profile set to Custom
NUMA Group Size Optimization set to Flat
Sysinfo program /cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on DL560-Gen10 Tue Nov 14 17:00:47 2017

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Continued on next page
Platform Notes (Continued)

From /proc/cpuinfo
   model name: Intel(R) Xeon(R) Gold 6154 CPU @ 3.00GHz
   4 "physical id"s (chips)
   72 "processors"
   cores, siblings (Caution: counting these is hw and system dependent. The
   following excerpts from /proc/cpuinfo might not be reliable. Use with
   caution.)
   cpu cores : 18
   siblings : 18
   physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
   physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
   physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
   physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
   cache size: 25344 KB

From /proc/meminfo
   MemTotal: 792071332 kB
   HugePages_Total: 0
   Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.3 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="7.3"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
      ANSI_COLOR="0;31"
      CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
   redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)

uname -a:
   Linux DL560-Gen10 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 14 13:02

SPEC is set to: /cpu2006
   Filesystem Type Size Used Avail Use% Mounted on
   /dev/sda1 xfs 447G 41G 407G 9% /

Additional information from dmidecode:
   Warning: Use caution when you interpret this section. The 'dmidecode' program
   reads system data which is "intended to allow hardware to be accurately
determined", but the intent may not be met, as there are frequent changes to
   hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS HPE U34 09/29/2017
Memory: Continued on next page
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CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE

Test date: Nov-2017
Hardware Availability: Oct-2017
Software Availability: Apr-2017

Platform Notes (Continued)

48x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/cpu2006/lib/ia32:/cpu2006/lib/intel64:/cpu2006/sh10.2"
OMP_NUM_THREADS = "72"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2

Base Compiler Invocation

C benchmarks:
  icc -m64

C++ benchmarks:
  icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
  401.bzip2: -DSPEC_CPU_LP64
  403.gcc: -DSPEC_CPU_LP64
  429.mcf: -DSPEC_CPU_LP64
  445.gobmk: -DSPEC_CPU_LP64
  456.hmmer: -DSPEC_CPU_LP64
  458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
  464.h264ref: -DSPEC_CPU_LP64
  471.omnetpp: -DSPEC_CPU_LP64
  473.astar: -DSPEC_CPU_LP64
  483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch
  -auto-p32

C++ benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
  -Wl,-z,muldefs -L/sh10.2 -lsmartheap64
**SPEC CINT2006 Result**

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**C benchmarks:**

```
403.gcc -Dalloca=_alloca
```

The flags files that were used to format this result can be browsed at:

- [http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revG.html](http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revG.html)

You can also download the XML flags sources by saving the following links:

- [http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revG.xml](http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revG.xml)

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For questions about this result, please contact the tester.  
For other inquiries, please contact webmaster@spec.org.

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